

AI SUB B1  
COT (c) detecting the target intermediate tandem repeat sequence in the sample of DNA, wherein an average stutter artifact of no more than 2.4% is observed.

A2 24. (Amended) The method of claim 22, wherein the stutter artifact is observed in step (b) by comparing the target intermediate tandem repeat sequence detected to fragments of known length in a DNA size marker.

AB 26. (Amended) A method for detecting at least one target intermediate tandem repeat sequence in a DNA sample, wherein the target intermediate tandem repeat sequence is a region of the DNA sample which contains at least one repeat unit consisting of a sequence of five (5), six (6), or seven (7) base pairs repeated in tandem at least two (2) times; the method comprising the steps of:

- total: 243,600 SUB B2
- (a) providing at least one oligonucleotide primer comprising a nucleic acid sequence which is complementary to and flanks a region of a DNA marker containing a template intermediate tandem repeat sequence, wherein the DNA marker has a sequence selected from the group of sequences consisting of SEQ ID NO:28, SEQ ID NO:32, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, and SEQ ID NO:43;
  - (b) providing a DNA sample comprising the target intermediate tandem repeat sequence;
  - (c) using the at least one oligonucleotide primer to amplify the target intermediate repeat sequence of the DNA sample; and
  - (d) detecting polymorphisms in the amplified target intermediate tandem repeat sequence.

AB 30. (Amended) The method of claim 26, wherein the oligonucleotide primer provided in step (a) comprises a sequence selected from one of the groups of sequences consisting of:  
SEQ ID NO:116 and SEQ ID NO:117, when the DNA marker sequence is SEQ ID NO:28;  
SEQ ID NO:124 and SEQ ID NO:125, when the DNA marker sequence is SEQ ID NO:32;  
SEQ ID NO:132 and SEQ ID NO:133, when the DNA marker sequence is SEQ ID NO:36;  
SEQ ID NO:134 and SEQ ID NO:135, when the DNA marker sequence is SEQ ID NO:37;

SEQ ID NO:136 and SEQ ID NO:137, when the DNA marker sequence is SEQ ID NO:38;

SEQ ID NO:138 and SEQ ID NO:139, when the DNA marker sequence is SEQ ID NO:39;

SEQ ID NO:140 and SEQ ID NO:141, when the DNA marker sequence is SEQ ID NO:40;

SEQ ID NO:142 and SEQ ID NO:143, when the DNA marker sequence is SEQ ID NO:41;

SEQ ID NO:144 and SEQ ID NO:145, when the DNA marker sequence is SEQ ID NO:42; and

SEQ ID NO:146 and SEQ ID NO:147, when the DNA marker sequence is SEQ ID NO:43.

31. (Amended) A kit for the detection of at least one target intermediate tandem repeat sequence in a sample of DNA, wherein the target intermediate tandem repeat sequence is a region of the sample of DNA which contains at least one repeat unit consisting of a sequence of five (5), six (6), or seven (7) base pairs repeated in tandem at least two (2) times comprising:

a container which has, at least one oligonucleotide primer for amplifying the at least one target intermediate tandem repeat sequence, wherein the oligonucleotide primer comprises a sequence of nucleic acids which is complementary to and flanks a region of a double-stranded DNA marker containing a template intermediate tandem repeat sequence comprising the repeat unit repeated in tandem at least two (2) times; and wherein the DNA marker has a sequence selected from the group consisting of SEQ ID NO:28, SEQ ID NO:32, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, and SEQ ID NO:43.

See attached sheet for a marked up versions of the amended claims, provided in accordance with 37 CFR §1.121(c)(1)(ii).

#### REMARKS

Claims 22-34 remain pending in the present application, claims 1-21 having been canceled by amendment as described herein above.